

# The Tyranny of Numbers

by Robert Easterling

In 1995 I came across *The Tyranny of Numbers*, by Nicholas Eberstadt, published that year. It impressed me enough that I circulated comments to the Reliability and Quality groups in Sandia. Mike Blackledge was on that distribution and he called and told me about the Last Thursday Book Club and wondered if I'd like to have *Tyranny* read and discussed by the club. I said I'm not sure whether this is the right sort of book, but I'd be interested in attending a club meeting to see what it's like. I soon joined, but when it was one of my early turns to select a book, to my everlasting shaming, I picked *Bluefeather Fellini in the Sacred Realm*, by the prize-winning author and New Mexico resident, Max Evans. What could go wrong?

I lead this memoir with *Bluefeather* because my first idea for an LTBC memoir was to be, *On Re-Reading the Bluefeather Fellini Volumes* (there are two of them) and demonstrate what gems they are, contrary to majority LTBC opinion. I didn't re-read very far in *Sacred Realm*, before I realized that I didn't have a passion for making the case for *Bluefeather*. It was too weird. Mea culpa.

I do have a passion for statistics (Numbers) done right, though, so that passion and current events brought *The Tyranny of Numbers* (sub-title: *Mismeasurement & Misrule*) (AEI Press 1995) by Nicholas Eberstadt to mind as better suited for a LTBC-related memoir. I can say with gratitude that *Tyranny of Numbers* got me into the LTBC. I'll return the favor, at long last, by summarizing the book for current LTBCers.

**About the Author:** (source: All American Speakers Bureau)

Nicholas Eberstadt ... researches and writes extensively on economic development, foreign aid, global health, demographics, and poverty. He regularly consults for governmental and international organizations, including such institutions as the U.S. Census Bureau, The U.S. Department of State, the U.S. A.I.D., and The World Bank.

*Aside.* The late Senator Daniel Patrick Moynihan wrote the Foreword of *Tyranny of Numbers*. On the topic of child poverty he writes: "By our calculations .... nearly one-third of the children born in the United States in 1980 will have been on Aid to Families of Dependent Children by age eighteen. ... These children, however much headstart they get, however much nutritional supplements they receive, these children are paupers.\* If you would rather not think about this, stay clear of Eberstadt. But if you have the heart for it, here is your man!"

[\*pauper: a poor person; historical use – a recipient of government relief or public charity.]

## ***The Tyranny of Numbers***

Author's Introduction/Theme: ... "The facts and figures that modern governments amass may well appear dull, but it is my contention that they are not essentially harmless.

To the contrary: in this collection of studies I attempt to demonstrate that ordinary people around the world routinely suffer injury through the agency of these selfsame dull statistics.”

[Example (*viz* Moynihan): Statistics on income and poverty have led to programs that have had the unintended consequence of increased *pauperism* – dependence on government relief, which does not mean an improved quality of life.]

..... “Throughout the studies in this collection, cold statistics and purportedly value-neutral numbers seem to lead to moral issues in policy. .... When all is said and done, there can be no substitute for moral reasoning in human affairs.”

I don’t think, when I first read this, that I’d thought much about how statistical and moral issues can be intertwined. Now I think about it often.

Eberstadt has continued his work in this area (see Wikipedia) and most recently summarized his analyses in a small book titled *A Nation of Takers (America’s Entitlement Epidemic)*. An interesting aspect of this book, to Eberstadt’s credit, is that it has a section, Dissenting Points of View, which features discussions by two analysts who disagree with Eberstadt. For example, one writer points out that wealthy Americans get “government relief” via the home mortgage tax deduction, and thus they are big-time “Takers.” Dollarwise, they cost more, say, than people who fraudulently claim Social Security disability payments.

The essence of Eberstadt’s *Takers* analyses is available on-line in “A Q&A with Nick Eberstadt” ([http://www.aei.org/wp-content/uploads/2012/10/-a-nation-of-takers-a-qa-with-nick-eberstadt\\_15060721824.pdf](http://www.aei.org/wp-content/uploads/2012/10/-a-nation-of-takers-a-qa-with-nick-eberstadt_15060721824.pdf)).

First Question: “Why are more than 30 percent of family households receiving means-tested benefits but only 11.1 percent of family households are at (or below) the poverty line?”

Second Question: “Which country has a higher fraction of men age 35-39 participating in the labor force – the U.S. or Greece?”

Interested readers can dig into *Tyranny* and *Takers* to get the full story. A related publication by Eberhardt is titled, “*Men Without Work: Americas Invisible Crisis.*”

### **Tyranny of Numbers. Recent Examples**

#### *VA Hospital Wait-Times*

The waiting time for a veteran to see a doctor in his or her nearest Veterans Hospital is an important element in the medical care of veterans. Thus, waiting-time data are collected and reported. To encourage improvements in care VA management told their

hospital administrators: the size of your annual bonus depends on the average patient-waiting-time in your hospital.

Data-based incentives and actions should be a good thing, don't you think? What happened, though, is that some administrators and staff faked the data. This is not conducive to healthy veterans. (Dilbert once remarked, "I didn't know data could be real.")

The late quality guru, W. Edwards Deming, would not be surprised. He preached 14 essential points for management. Number 11:

*Eliminate numerical quotas for the workforce and numerical goals for management.*

His reason: Numerical quotas and goals can distort a system, rather than improve it. It's easier to fix the data than to fix the flaws in a system (Deming also preached continuous quality improvement.) As Eberstadt says, Morals required; not just Numbers.

*Disparate Impact.*

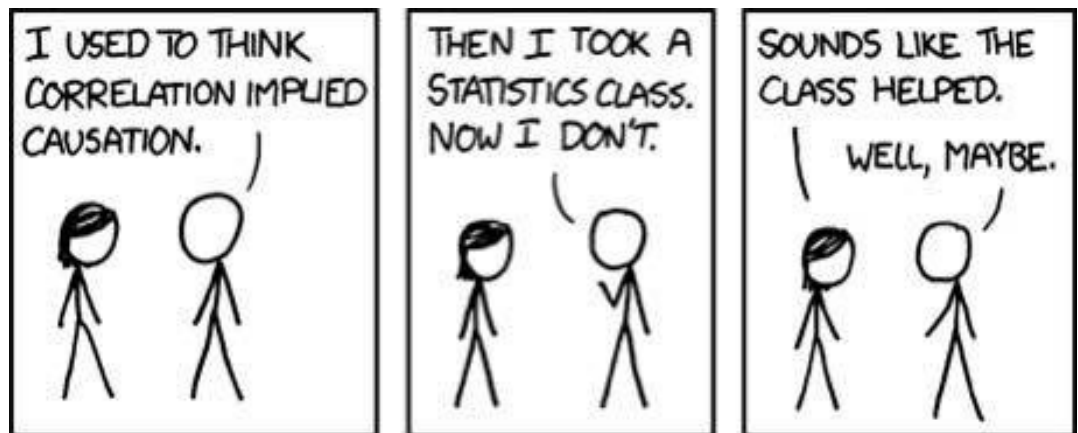
Violence in schools is a widespread concern. The Obama Administration's Secretary of Education sent "Dear Colleague" letters to school administrators, nationwide, requiring schools to report various acts of violence – bullying, physical attacks, destruction or theft of property, ... and the actions taken: suspension, expulsion, arrest, ... .

Schools were directed to report the occurrence rates of such acts and actions by race or ethnicity, on a per capita basis. Under the assumption that the propensity of acts of school violence is constant across races (boys will be boys, universally) one would expect equal occurrence rates across races (allowing for statistical variability) and similarly, equal punishment rates across races for the same acts of violence. If the observed rates differed by more than could be attributed to the inherent statistical variation in these measurements, schools were told their disciplinary program has a *disparate impact* on the different races. To the Dept. of Education, such an outcome is indicative of teacher and administrator *racism*, which no teacher, principal, or superintendent wants to hear, and this finding could lead to loss of funding.

Refs. Heather McDonald (??), ?? TBD

The Broward County remedy: they quit reporting violent acts and disciplinary actions. They offered counseling as an alternative. Broward County Schools were widely praised and cheered for their progressive approach. Meanwhile a ticking time bomb was not heard. Reluctance by school or law enforcement agencies to follow-up on reported threats by the Florida shooter was, some have conjectured, at least in part due to a desire to avoid "bad numbers." Morality?

*Correlation vs. Causation.*



Statistics means never having to say you're certain.

### Sub-Prime Lending

Data show that home-owners tend to have better "quality of life," as measured in terms of such characteristics as education, employment, income, crime, two-parent homes, perhaps health, .... Thus, quality of life and home ownership are correlated. Politicians of both parties said: Let's increase the number of home-owners. That will be better for the population. How? Make it easier to buy a house and remove onerous barriers, such as a 20% down-payment. Result: mortgages that could not be paid, abandoned houses. Morality?

### Climate Change

Sunday May 14, 2017

**DILBERT**

★★★★☆  
**BY SCOTT ADAMS**



About 15 years ago at a statistical conference, I saw a presentation on climate modeling. The presentation started with data, in particular a graph spanning about ten

years of data that straddled parts of the 1980s and 1990s (I recall). The plotted data were annual carbon emissions and average measured temperatures over that period. The plot showed that both carbon emissions and measured temperatures increased. Scientists, mathematicians, and statisticians assumed causation, developed mathematical models for the relationship between emissions and temperature.

At the end of the presentation, I said to the speaker: We've now got about five years of data past the end of the data you had when you fit your model. Have you compared your predictions to what actually happened, temperaturewise, these last five years? His answer was, "No, our sponsors don't seem interested in that." I was shocked. Thought this was a most unscientific answer -- it betrays the scientific method: conjecture, data, updated conjecture (models), more data, ... .

What we got was models that were fitted to data that showed a correlation between emissions and temperature, then extrapolated. This gave us the famed 'hockey stick' and Al Gore's hysterical predictions.

Recent comment I saw in an online discussion:

"The year Al Gore was born there were 5,000 polar bears. Today only 30,000 remain."

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**(Legacy not sure about this)**

Other than Bluefeather Fellini, what is my legacy?

1. Archie Bunker's complaint to his son-in-law: "Don't give me no statistics (sic), Meathead. I want facts."
2. Article in *The American Statistician* (2010), titled *Passion-Driven Statistics*. Most downloaded article in *The American Statistician*, in 2010.
3. Textbook: *Fundamentals of Statistical Experimental Design and Analysis*, (Wiley 2015). Positive reviews, such as: